

Public hearings on air quality to continue

Government
Publications

More than six months ago the province introduced new rigorous standards for air quality. They reduced by 50 per cent the standard for lead suspended particulate in the air.

The vigilance is by no means over.

Public hearings on two reports on environmental lead levels and the effect on human health are continuing before the Environmental Hearing Board. The hearings, begun January 16, are part of Ontario's ongoing pollu-

tion research and control program.

They provide a public review where concerned individuals, resident groups, municipal officials and representatives of lead-producing industries can comment on recommendations made in these reports.

Dates can be obtained from secretary of the Environmental Hearing Board, Tom Murphy, 1 St. Clair Ave. W., Toronto.

"The hearings will give all interested parties an opportunity to

participate in this province's ongoing environmental protection programs," Environment Minister William G. Newman said.

"We are expecting valuable and sound information and recommendations resulting from the hearings, but the government is continuing its immediate programs to protect the people from all contaminants, including lead," he added.

"Although there is no concrete evidence to date to prove that

lead emitted from industries represents a health hazard, my Ministry, the Ministry of Health and the Toronto Board of Health are operating on the premise that if a hazard exists, we must eliminate it," Ontario Environment Minister William G. Newman said recently.

In the Metropolitan Toronto area, concern about lead in the environment has centered around five lead processing plants.

The Canada Metal Company Ltd., 721 Eastern Ave., Toronto; Toronto Refiners and Smelters Ltd., 28 Bathurst St., Toronto; Eltra of Canada Ltd., (Prestolite Battery Division), 1352 Dufferin St., Toronto.

Toronto Company of Canada Ltd., 2414 Dixie Rd., Mississauga; ESB Canada Ltd., 2301 Dixie Rd., Mississauga.

The Working Group on Lead, composed of staff from the Ministries of Environment and Health, from the Toronto Health Department and from the University of Toronto Faculty of

Medicine, found that operations at these plants have contributed and are still contributing lead to the environment at higher than normal levels.

When there are homes near any of these plants, the situation is aggravated.

At the same time, there are few definite answers to the question of how environmental exposure to lead over a long period of time affects human health. A three-man committee reporting on this found that there have been no deaths in Ontario in the past 14 years from lead poisoning and that there have been no recognized cases involving medical symptoms resulting from lead in the environment.

Because of government and public concern, Toronto health officials conducted a blood-testing program in the areas surrounding the three Toronto lead plants and in a control area, testing a total of 6,500 people. They found 206 people with lead levels higher than 40 micrograms per (Continued on Page 2 Lead.)

ENVIRONMENT ONTARIO LEGACY

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First a
crash...

With a hearty swing, Mrs. Molly Newman crashes a champagne bottle on the bow of Guardian No. 1, Environment Ontario's new Great Lakes survey vessel, as her husband, Environment Minister William Newman watches. The formal christening of the \$200,000 addition to the Ministry's fleet was held in Amherstburg on Thursday, May 29. (See Picture, Report on Page 2.)

Surveys trace lake problems

A sanitary survey of cottages, resorts and permanent establishments fronting a lake is now underway in the Peterborough, Muskoka, Sault Ste. Marie and Kenora areas. This is part of the Ministry of the Environment's cottage pollution control program.

The purpose of the survey is to detect and correct faulty sewage disposal services or practices in the cottage area which may be polluting the lakes. The program is now in its sixth year.

This summer four teams of specially trained university students will inspect over 4,000 cottages.

One team will work out of Gravenhurst and survey Bala Bay on Lake Muskoka, Three Mile Lake, Gull Lake (Gravenhurst) and Gull Lake (Haliburton).

Another will visit Mitchell, Canal, and Dalrymple Lakes and also Young's Lake, if time permits. Their field office will be in Dalrymple.

Kenora's team will examine the south end of Lake of the Woods, working from a field office in Morson and then move to Rainy River to sample Red Gut

Bay and, if possible, Swell Bay. The Rainy River field office will be at Bear's Pass Trading Post.

The Sault Ste. Marie students hope to sample Upper and Lower Island Lake, Trout Lake, Northland Lake, Maki Lake, Hayden Lake, Echo Lake, Haviland Bay, Harmony Bay, Gouais Bay, Chapeau River, Wawa Lake, White River, Tekonong Lake, Elliot Lake and Dunlop Lake.

The students will talk to cottagers and collect information about the private waste disposal methods used at the establishments in the area. Among other things, they will want to know the number of occupants at the cottage, details of the plumbing installation, location, size and age of the septic tank, cesspool or pit privy, topography of the lot and will obtain a sketch of the property showing positions of the septic tank, well, lake and property lines.

If the data and samples indicate that the disposal facilities are inadequate, a Ministry abatement official will check the findings. If a problem does exist, he will contact the owner to discuss and arrange an abatement program.

York-Durham facilities underway

The York-Durham water and sewage service system is now officially underway. Last February, the Regional Municipality of York signed a formal agreement with the Ontario Ministry of the Environment involving their participation;

the Regional Municipality of Durham signed April 25 and Ontario Municipal Board approval has been obtained.

The \$200 million Environment Ontario water and sewage system will provide 170,000 new

homes in the regions of York and Durham—20,000 by the end of 1976—and a boost in employment for thousands in Ontario.

The agreements involve the scheduling of construction, sewer capacity, costs of service and adjustments due to inflation, specifies responsibility of operation and establishes liaison committees.

Since both municipalities had agreed in principle to the scheme, Environment Ontario, with the approval of the Management Board of Cabinet, has been proceeding for the past few months with the engineering and purchase of land. It has also sought and obtained approval for the construction areas from the Environmental Hearing Board through a series of public meetings.

Taking these steps before the formal agreements were completed has saved several months of time. The Ministry now expects to have one and possibly two of the major sewers completed by fall of this year plus the interim expansion finished on the following sewage treatment plants: Unionville, Markham, Newmarket and Bay Road.

With more than 80 miles of sewage and water mains alone, this is the most comprehensive servicing ever launched by the Ministry of the Environment.

The construction of these systems will be staged over the next 20 years to provide an environmentally sound basis for extensive development in an area from Woodbridge to Ajax and north to Newmarket.

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The Newmans jump back—too late—as champagne splashed back from the boat. —Ron Johnson

...then a splash!

Ontario's Guardian sets sail

Guardian No. 1, the Ministry's 34 foot survey vessel will enable Ministry personnel to conduct meteorological, limnological and sedimentological studies on the Great Lakes, interconnecting channels and the St. Lawrence River.

Powered by twin diesel engines, Guardian No. 1 will hold a crew of five, a captain, a deck-

hand, and three water research technicians.

The new vessel is the largest of five Environment Ontario water quality survey vessels. All five are used in sampling and testing the quality of the Great Lakes.

This is where the Guardian No. 1 fits in. She has been added to our other survey vessels to help in this continuing search for

knowledge Environment Minister William Newman said. "This summer she will sample water along the entire Canadian shoreline of Lake Erie. The information she collects, added to the data provided by our four other major vessels, will contribute to Ontario's programs, to Canada's programs and to the International Joint Commission's programs."

Reverend W. T. D. Ashby, of Christ Church Amherstburg, assisted in the christening and was named honorary chaplain of the Guardian No. 1 by Mr. Newman.

Digging history is part of sewage system work

An archeologist working on a water and sewage project is a perfect example of society's rising concern for its resources.

Dean Knight, a University of Toronto student working on his PhD in anthropology has been engaged by two separate companies of consulting engineers, on behalf of the Ministry of the Environment, to undertake an archeological survey of part of the proposed route for the new York-Durham sewer system.

Both companies, after checking with the historical sites branch of the new Ministry of Culture and Recreation, were informed that their proposed right-of-way for pipe installation, lay in areas which could possibly contain sites of historical interest.

The areas are adjacent and lay within lots of concessions II and III of Markham Township.

One of the first steps in preparing an archeological study is

to examine all available records regarding the area.

Then it is important to talk with the local residents. Not only does the archeologist seek the owner's permission to examine the land but he also asks whether Indian pottery or arrowheads have been found in the vicinity.

"The older people, especially those who have plowed the land behind a horse have a good knowledge of the history of the area," said Dean.

Even if the residents cannot recall any signs of previous habitation, Dean still searches each field. He looks for Indian pottery, fragments, arrowheads and large dark patches of earth, indicating perhaps an old garbage site or midden.

Dean has already surveyed one of the sites and handed in his report. In one corner, approximately 20 meters by 20 meters he has found artifacts—an iron nail, a coin, broken crockery and glass—suggesting that the site was occupied in 1890.

As the area is south of the proposed right-of-way, construction can go ahead.

Dean and a fellow student have been doing this type of work now for a couple of years. Their company is called Archeological Research Associates.

They will probably be doing more consulting work in the near future because of a new piece of legislation called an Act to provide for the Conservation, Protection and Preservation of the Heritage of Ontario. Among other things, the act prohibits anyone from excavating or altering property of archeological significance without receiving a permit from the Minister of Culture and Recreation.

A stop work order may also be issued by the Minister, if any property of archeological or historical significance is likely to be damaged or destroyed by commercial, industrial, agricultural, residential or other development.

Lead vigilance

(Continued from Page 1)

100 milliliters in their blood tests. These people were given a full testing program at the Hospital for Sick Children and 23 were admitted for intensive investigation.

Lead levels in the air and in soil are monitored, along with other contaminants, by the Ontario Ministry of the Environment. Environment Ontario has 15 sampling stations in the vicinity of the five major lead sources.

Emission surveys for each of these plants have been completed and a number of control measures have been established to reduce lead emissions.

At Canada Metal Ltd., controls are in place to reduce emissions from melting, alloying and refining operations as well as from material handling areas. In addition some housekeeping improvements in the plant and on the property have been made to reduce the emission of lead laden dust.

Air monitoring since 1969 shows that lead emissions from this plant have been reduced and air quality in the vicinity of Canada Metal Ltd. has improved, although emissions still exceed Ontario's new criteria of five micrograms per cubic meter on occasional days.

At Toronto Refiners and Smelters Ltd. emission controls are in effect on handling and storage areas to reduce dust and on crushing, furnace, refining, alloying and pouring operations. Ministry air sampling shows that the plant's operations have improved to the point where emissions meet Ontario's criteria.

Similar control measures and abatement programs are under way at the other three plants in the Metro area, and monitoring of emissions will be continued at all five industries.

CITATION:

Welland clean-up leader honoured

Judy Van der Most of Welland has just received Ontario's second Environmental Certificate of Merit. Environment Minister William G. Newman presented the award to the mother of three, May 26, for her involvement in Welland's annual spring clean-up week.

"Mrs. Van der Most was the primary organizer of a most successful campaign to reduce the litter problem in her community. Because of her personal concern for our environment, Welland's rampage on litter campaign stands out as an example to every other community across the province," Mr. Newman told guests at a brief presentation ceremony in Queen's Park.

The anti-litter campaign ran from May 4 to May 11 in conjunction with Welland's annual Spring Clean-up week. An estimated 20 tons of litter was collected by over 6,000 school children and other residents who filled over 3,900 plastic garbage bags during the seven-day campaign. A Poster Contest involving 20 local schools and 80 classes was also held during the Spring Clean-up Week.

The official citation reads:

"Mrs. Van der Most, as organizer of the Rampage on Litter Campaign in the City of Welland, was instrumental in involving more than six thousand students and other residents of the City, young and old, in this highly successful litter clean-up campaign."

The Rampage on Litter was an important part of the City's Spring clean-up week from May 4 to May 11, 1995.

The Ontario Ministry of the Environment is pleased to honor Mrs. Van der Most, not only as a representative of all those Welland residents who contributed to the betterment of their environment, but also as a concerned individual who made great personal contributions of time and

energy to this project."

In presenting the Certificate, Mr. Newman said that it was the individual efforts of people such as Judy Van der Most which made it possible for communities such as Welland to successfully carry out spring clean-up programs.

"Too often we have the tendency to call upon government to do the job when we, as individuals, should and can do the job ourselves. The success of the Welland campaign is an example of what we can accomplish as individuals provided we care," he said.

Mr. Newman revealed that when he first telephoned Mrs. Van der Most to inform her that she had been selected to receive the Certificate, she refused it.

He said it was only after he had explained that the award recognized the role that Welland school children and others had played in the successful campaign that Mrs. Van der Most agreed to accept it on their behalf.

Mrs. Van der Most, who prefers to be called Judy, says the framed award will be displayed in the 34 schools which took part in the campaign.

"The hundreds and hundreds of school children deserve this award not me," she modestly explained. "They did the work. Without them, their parents and teachers we couldn't have done the job."

Mrs. Van der Most is the second Ontario resident to receive the recently created Environmental Certificate of Merit.

The first recipient was a Welland boy, who spotted an oil spill on his way to school earlier this year and reported it to Environment Ontario officials. His prompt action was credited with enabling employees of the company involved and Environment officials to contain the leak and limit possible serious damage to a nearby watercourse and harbor waters.



Mrs. Judy Van der Most receives Environment Ontario's Citation of Merit from Environment Minister Newman.



DEAN KNIGHT Digging history.

CONFERENCES

4th annual pollution control show has high educational value

Pollution control is an essential element of our everyday pattern of life. Environment Minister William G. Newman told guests at the official opening of

the fourth annual International Pollution Control Show, in April.

"It touches every segment of society—our families, our

homes, industry, commerce, government and our recreational facilities," Mr. Newman said. He described the show as "a valuable educational service."

Mr. Newman told industry representatives and equipment manufacturers that their responsibilities will increase.

"We now have the capability to identify contaminants in our air and water which were virtually undetectable a few years ago. Our ability to spot such contaminants has improved at a far greater rate than our ability to remove them from our water and air. It is up to private industry and your specialists and our expertise to come up with the necessary answers to provide the equipment which will allow both industry and government to meet the control standards demanded of us by the people of Ontario."

He said that Ontario has extended its Pollution Abatement Incentive Act, which provides grants refunding provincial sales tax on pollution control equipment, to further encourage the purchase and installation of this equipment.

"Since 1970, we have stimulated the spending of millions of dollars by industry and by this province and its municipalities in abatement and control equipment," Mr. Newman said. Since 1970, 1,557 claims, totalling \$8.5 million have been paid out in incentive grants.



The booth attendant and his silent partner keep an eye on Meegan Laforte a visitor to MSC Engineering Systems booth.

Symposium

Pesticide detection

By DENNIS NAGATA
Summer Editorial Assistant

It's called pesticide residue analysis, but you could really call it the search for needles in haystacks.

About 70 scientists involved in this work where parts per trillion is a common term, assembled for the seventh annual eastern Canada symposium on pesticide residue analysis the week beginning May 20. Held for the first time at the Toronto laboratory services branch of the Ministry of the Environment, the program consisted of workshops, discussions and technical sessions relating to pesticides detection and analysis.

The approach of the symposium was geared to the needs of the research work. W. B. Drowley, the Ministry's assistant deputy minister for utility and laboratory services division said in opening the symposium.

"It is my experience that the type of informal approach that

the organizers have tried to structure has considerable advantages over the more formal scientific conferences.

The demands for more comprehensive methodology, and better detection limits for pesticide analysis have always required the analyst to familiarize himself with the newest and most innovative techniques for trace analysis."

Not only was the symposium an opportune time to trade notes for the senior research scientists from industry, government and universities, it also provided an opportunity for the participants who came from across eastern Canada to inspect the Ministry of the Environment's pesticides monitoring equipment.

In the major extension recently completed to the laboratory complex in Toronto's west-end, the Ministry has provided a fully equipped laboratory for the analysis of a wide range of pesticides and herbicide residues.

First joint conference

By TOM DAVEY
Public Relations Chairman
Water Resources and the Canadian Environment Conference

Canada's first national multi-disciplinary conference of environmental associations took place in Toronto in April, and its success assures similar combined conferences in future years.

Far too often in the past, the environmental disciplines have held separate conferences which resulted in little cross-fertilization with other scientific groups.

This year for the first time, the Ontario Section of the American Water Works Association, the Ontario Municipal Water Association, and the Pollution Control Association of Ontario, combined in a conference, hosting the Federation of Associations on the Canadian Environment. It was called Water Resources

and the Canadian Environment.

Additionally, the Ontario Section of the Air Pollution Control Association held its conference at a nearby hotel. While not officially part of the conference, its timing had been planned in co-operation between the two groups.

As well, the Pollution Control Show was staged at the Canadian National Exhibition buildings.

Bringing together several associations for the first time undeniably posed administrative difficulties. However, Sid Dutton, Joint Chairman of the Conference and the retiring President of the PCAO, says, "I was amazed how smoothly the entire operation went."

"While there were certain or-

ganizational difficulties in combining groups with varied interests, there is no question that the advantages of such a multi-disciplinary conference far outweigh the disadvantages. We have learned a lot from this conference, and I feel the next such conference will be even bigger and better."

He said there were 33 papers covering a wide range of technological and scientific subjects. What was particularly encouraging, he said, was the way that pollution engineers attended papers on potable water techniques, while water filtration engineers attended papers on toxic and other problems.

This type of cross-fertilization can only benefit those interested in the environmental sciences, said Mr. Dutton, who is head of the waste treatment department of Proctor & Redfern Limited. The federal Minister of the Environment, Madame Jeanne Sauvé, traced the history of Environment Canada, and outlined the role it will play in future years.

Mr. William Newman, Ontario Minister of the Environment, traced the origin of his ministry back to the formation of the Ontario Water Resources Commission, acknowledged to be one of the finest environmental organizations in the world.

Mr. Dutton feels that another joint conference is almost a certainty, but predicts that next year will see the Air Pollution Control people officially become part of such a conference.

Grand River undergoing extensive testing

The Grand River will be the scene of extensive testing this summer.

A provincial study team composed of representatives from the Ministries of the Environment and Natural Resources, the Management Board of Cabinet and the Grand River Conservation Authority will collect data on the waste receiving capability of the river.

Most of the team's activities will take place in the major problem areas of the central portion of the Grand River Basin.

The basin is an area of 2,600 miles, stretching from Port Maitland on Lake Erie to the head waters close to Georgian Bay. The Grand and its major tributary rivers, the Nith, Speed and Conestoga, flow through one of the most important socio-economic regions in Ontario, past the major centres of Kitchener, Waterloo, Guelph, Galt and Brantford, as well as many other towns, villages and agricultural areas. The region is under constant pressure to expand and develop its resources.

The river system is very important to the people of the basin, providing water for municipal, industrial and agricultural uses, recreation, and a vehicle for the conveyance of wastes. It also poses a serious hazard to significant portions of the population from time to time due to severe flooding.

The '75 program is designed to lead into a longer term project subject to management board approval at a later time. Data collected by the preliminary study

will be of use to Grand River communities prior to the latter study.

The Ministry of the Environment is also providing financial support for a study by the Regional Municipality of Waterloo into the feasibility of installing wells near the Grand. Drawing water into the wells at periods of high flow could possibly make more water available from local sources than was previously estimated.

The study team was organized by the Grand River Implementation Committee, a seven-member interministerial group, whose purpose is to guide the water resources development of the Grand.

The implementation program was formed as the result of a report prepared by the management services division of Treasury Board in 1971. The report dealt with the future likely growth and development of the communities in the basin; their subsequent demand for water; the availability of water from other sources; alternative proposals in terms of water supply, quality, flood control, recreation and the management of the river system as a resource.

The Implementation Committee has already concerned itself with such issues as: the feasibility of artificial recharge using water from one of the Grand's tributaries, the Nith, to augment present supplies; treating effluent from sewage treatment plants through spray irrigation and the effect of small dams and reservoirs on water quality.



Sid Dutton (left), joint chairman of the Water Resources and the Canadian Environment conference and retiring PCAO chairman gets together with Dennis Caplice, also a former PCAO president.

People

Planning helps West-Central Region



COLIN MACFARLANE: "We are fortunate..."

RESEARCH EFFECT

Every glass of water...

If you're like most Ontario citizens, you probably wouldn't appreciate the merit in a very technical, very lengthy paper on direct water filtration. What you may appreciate is that this award-winning research paper probably affects every glass of water you drink.

The authors William Hutchinson, and P. D. Foley, both of the Ontario Ministry of the Environment's research branch received the American Water Works Association Publications Award at its annual meeting in Minneapolis, June 8-12.

The paper, "Operational and Experimental Results of Direct Filtration," (February 1974 Journal AWWA) is the result of four years of study, begun in 1969 into the total impact of removing the sedimentation stage in the water treatment process. The results of the study have been built into the water treatment facility completed this month at Sarnia and into the one now under construction on Toronto Island.

Though the findings of the study will reduce the capital cost of construction of the Toronto Island facility by 20 per cent, Mr. Foley said cost factors were not the highest priority.

"We wanted to re-examine the entire filtration process," he said, "especially how the removal of the sedimentation stage would affect the diatom (a form of algae) removal process and how the existing facility at Grand Bend, Ontario could handle the more stringent water filtration standards of 1967." Construction on the Grand Bend facility began in 1966, one year before more stringent filtration standards came into effect. The effect these had on plant's operation, began in 1968, was a major study objective of Mr. Foley and Mr. Hutchinson.

The diatom is found throughout the Great Lakes system, most abundantly during May to July. The paper recommended more efficient removal of the algae by increasing the size of the pieces in the anthracite coal layer through which the water is passed in the initial stages of filtration.

As far as the more stringent standards for color, output standards were concerned, Mr. Foley said the Grand Bend facility had no difficulties. In fact, he said existing plants in Ontario could probably increase their

Environment Ontario's smallest region—the West-Central—takes in one of the most heavily industrialized sectors in the province as well as some of the Niagara Peninsula's choice farmland.

"We are fortunate in this region that land use planning by municipalities, their engineers and their planners was recognized earlier than it has been in other areas," said West-Central regional director Colin MacFarlane.

Mr. MacFarlane and his staff are responsible for the total environmental protection of the area, which includes the counties of Dufferin, Wellington, Brant, and the regional municipalities of Hamilton-Wentworth, Waterloo, Niagara, and Halton. In addition to the regional office in Stoney Creek there are district offices in Welland and Cambridge.

One of the major concerns of the West-Central offices is the Grand River Watershed. With the municipalities of Waterloo and Kitchener wishing to expand, it has become an increasing challenge to enforce and uphold proper environmental standards. "Increased development and growth can unfortunately bring increased degradation," Mr. MacFarlane said.

Other concerns include Coot's Paradise. Coot's Paradise is a park and recreation area currently in danger of the untreated effluents from the Dundas sewage treatment plant. "Residents of the area, as well as visitors, don't want the park to turn into a sewage lagoon and right now our staff is working on a program to maintain the aesthetic quality of the area."

The major challenge, then, to Colin MacFarlane and his staff is to achieve a harmonic balance between the increase of population and subsequent forms of pollution it brings.

In addition, moving from one township to another throughout the region makes a big difference. "For example," Mr. Mac-

farlane said, "industrialization and Hamilton are synonymous but even a few miles away industry is shunned."

Born in Glasgow, Scotland, Mr. MacFarlane received his Engineering degree at Glasgow University. He came to Canada in 1955 and started working, in the Arctic on the Dew line operation.

Two years later he moved to Toronto and formed a partnership in consulting engineering. In 1967 he became district engineer with the former air pollution control service of the Ontario Department of Health. He was appointed assistant director of the air management branch of the Department of the Environment in 1971 then director in 1972.

When he's not working in the office at Stoney Creek or travelling to any one of the district offices in Welland or Cambridge, Mr. MacFarlane is active as an elder in the United Church. He also plays the odd game of tennis but says, "I enjoy the game but I really don't play it that well and there's no visible signs of improvement either."

output by 50 per cent if necessary.

To do this, Mr. Hutchinson said, would require two main changes: The filtration media, sand, would be combined with coal to allow increased water volume. Also, polymer would be used instead of alum because of its superior ability to remove particulate matter.

Alum has been used in the water filtration process for more than 400 years. This fact reflects the low rate of obsolescence in the technology of water filtration, said Mr. Hutchinson.

But, he said that picture may change quickly in the next few years if it should be found necessary to remove certain substances for reasons of health. Generally, the attempt toward increased efficiency of water treatment demand, he said, a more technically oriented treatment plant operator.

To help meet this demand, the Ministry of the Environment offers three one-week courses in water treatment designed for municipal and ministry officials. The program, offered four times between September and March, is under the supervision of Bob Doddridge of the Ministry's training and certification branch.

ENVIRONMENTAL STUDIES:

For the solutions ask the children

By Daniel G. Stoker
Educational Resources Co-ordinator

Although their solutions to environmental problems are sometimes wild and humorous, the youngsters I meet at speaking engagements have a lot of good and often practical ideas that merit recognition. With this in mind, Information Services Branch has prepared a button called "I've Got a Pollution Solution" to be issued to those young people that give thought to environmental problems and come up with solutions.

Despite the fact these buttons have been available for only a short period of time, many have been distributed already. For example, after an assembly at Smithville Middle School in Rexdale, the following "Pollution Solutions" appeared in my mail.

I have two solutions. One, being that the government start a "Clean-up Canada" project and employ people to help, or even advertise it on a voluntary basis. Maybe concerned students or housewives wouldn't mind cleaning up for the benefit of the community. Also get some of these volunteers to help find these litterbugs, get the names and post them on a billboard, saying so and so, is a litterbug. It might work.

—Jennifer Blackhall

A few solutions that I have for getting rid of land pollution are: to clean up the land, fields and water around you. If you don't do it each month, a fine is handed out or send a space ship out to put it on another planet or send it towards the sun and it will disintegrate, even the caps. Also have police cars patrolling the area for litter bugs, if they are caught they have to pay a fine.

—David Raechert

It seems to me an answer is the new Solex bike which gets approximately 150 to 200 miles per gallon and only costs from \$200 to \$300. It goes far on little gas. This means it doesn't give off that much exhaust which is pollution because it needs most of the energy and exhaust in the engine. So maybe if you promote it more and let people know about it they might leave their cars at home and go to work on a cheaper less polluting type of bike.

—Peter Kapferer

I think that if we were to stop wrapping everything twice we will be saving the trees for the paper, and the production of making it. For instance at MacDonald's if you order a cheeseburger they would wrap it up in paper, put it in a little bag and then with your drink they put it in a cardboard box which is unnecessary. Anyway what is a little nudity. What does all that nudity add up to? It adds up to less garbage of course.

—Cindy Hefler

If the thoughtful students that write in, make it to positions of responsibility in the future, I think the environment will be in good hands.

Training for spill action

In spite of the most rigorous precautionary measures, some environmental spills are going to happen.

The oil and chemical industries recognize this. The government recognizes this. So, together they are producing educational aids suggesting proper post-spill procedure.

Of the three half-hour videotape features completed so far, one entitled "Public Relations at the Spill Scene" was judged the best Canadian educational program at a videotape competition sponsored this spring by the International Industries Television Association of the U.S.

The feature stresses the importance of a prompt, accurate and co-operative public information program whose crucial stage occurs in the very moment the spill

is reported. The first reports from the spill site, the feature points out, are vital in placing the incident in perspective before the public and in lessening the spread of inaccurate information.

The six videotape features, will be distributed across North America and in the countries of the Common Market. A U.S. customer will pay about \$200 for each videotape. But those organizations associated with the consortium on spill-training, the producers of the educational series, will pay about half that price.

Formed in late 1973, the four-member consortium COSI is an affiliation between the oil industry and government. Chris Beckett from the federal Ministry of Transport, Nick Vanderkooy from Environment Canada, and Gamet Kay from the Minis-

try of the Environment are the government representatives. PACE (Petroleum Association for the Conservation of the Canadian Environment) represents the national oil industry, with input from 11 major Canadian oil companies, via Mr. Robert Fern and Mr. Ken Evans.

PACE contributes 40 per cent of the production costs with each government organization contributing 20 per cent. The award-winning videotape on public relations procedure cost about \$15,000. In the Ministry of the Environment costs are shared by three divisions.

Government together with the oil and chemical industries is concerned about spills, Mr. Kay said. "We are making strong efforts both to prevent them and to minimize their impact when they do occur."

Daughter wears hat made of beer cans

By DENNIS NAGATA
Summer Editorial Assistant

It's no wonder the garbage collector barely slows down in front of her house. The lady just hates to throw anything away.

Camille Muller, a working mother from Bolton (25 miles north of Toronto), is an artist whose medium isn't oils or water-colors or clay, but the common, every-day brand of garbage.

You can't look in any corner of her home without finding a piece of cleverly-disguised refuse. Things to look at, to wear, to put things in, and even things to sit-on are part of her garbage-menagerie.

Containers of all sorts make up the bulk of Mrs. Muller's raw material. Even the kind Mother Nature uses are fair game: six dozen egg shells wildly colored in acrylic paint with stems of discarded wire represent 25 hours of work and make a beautiful flower arrangement.

Maybe work is the wrong word.

"I just can't sit-around doing nothing the way some people can, watching television for example," she said. "I've got to keep my hands busy. More often than not, they're busy working with a piece of garbage."

Under the direction of these hands, pill containers (Mrs. Muller's parents are diabetic) become candle molds; lids from aerosol spray cans are miniature flower pots; weeds and fabric remnants can be picture murals. With a few dozen safety pins, a few feet of 28 gauge wire, and assorted beads, Mrs. Muller creates the look of quality jewelry. She's made hundreds of bead necklaces.

Some of her work borders on garbage/art, such as the pair of two-inch high birds. The male is made of a tiny black velvet (remnant, of course) jacket with sparkling sequin buttons and a spiffy white, rice-paper vest underneath. His lady friend is

equally well dressed, right down to her recycled red leather hat.

Mrs. Muller last year won prizes at a local fair with her creations. An accomplished painter, she often works on odd pieces of remnant velvet.

Of a more functional nature are the placemats she fashions from scrap bass-wood blinds. These she mostly gives as gifts—very unique gifts, indeed.

Bleach bottles are a particular favorite with Mrs. Muller. The bottom, when joined to remnant material is a very serviceable handbag; the handle of the bleach container becomes an efficient scouring pad when attached to nylon net. Mrs. Muller has found that gently heating the plastic jugs makes the cutting a lot easier.

For those who are forever scouring the kitchen for something to dry their hands on, Mrs. Muller has invented a solution. From bathroom towel remnants, she fashions small, thick towels perfect for hand drying that are

fastened to the handle of the oven door by means of a buttoned strap.

Mrs. Muller has turned leftover crochet yarn into quilts, afghans, ponchos and blazers for people and animals alike. A regular part of her daughter's winter wardrobe is a woolen hat with sides made from discarded beer cans. Debbie, 13, doesn't share her mother's preoccupation with the possibilities of garbage.

"It sure makes a mess," she said.

But her mess is nothing like the one created by solid wastes in this province. Since 1950, there are twice as many people pouring out about four times as much garbage. The amount created by every citizen of the province: of a ton a year.

"People are lazy and apathetic," said Mrs. Muller. "Many show interest in ways of utilizing some things they normally just throw away, but they never get past the stage of pure interest."



Camille Muller displays some of her handwork.

Cornwall recycling — no room in the City

The Cornwall Area Recycling Project (CARP) announced April 21 that its operations in Cornwall, Stormont and Glenargy were shutting down.

This is CARP's story.

"I have always been a naive optimist," said Elaine Kennedy, "now I'm just an optimist."

The vivacious Miss Kennedy is the founder and financial backer of the Cornwall Area Recycling Project (CARP).

In 1972, Miss Kennedy left Orillia to teach high school in Cornwall. One day, looking at her own rapidly growing pile of newspapers, she remembered a successful paper drive that some Orillia students had organized.

"I thought that if they could do it, so could I and on a bigger scale," she said. "There is unlimited paper available in the area, an industry that will buy from us and no one else in the area is involved in a similar project. But if I had known then what would be

the result of my silly little idea."

GETTING STARTED

Miss Kennedy first investigated all the possibilities of recycling. Cornwall's City Council through their environmental control committee offered their moral support. Brian Merkle, an employee from a local industry offered his help and later they were joined by an accountant. All three still maintain their regular jobs.

When the project first got underway, citizens were asked through public service announcements on the local news media to bring their newspapers to one of two shopping plazas located at either end of the city. Volunteers, consisting of students and retired people, collected them. Around 6 o'clock a truck would come and take the papers to the headquarters—a former gas station.

In August of '73, Domtar Fine Papers requested that CARP bale the newspapers. So

Miss Kennedy went out and bought an old baler for roughly \$350.

Things really began to go smoothly. Service clubs donated wooden collection boxes and these were placed in every village within the Counties of Stormont and Glenargy and around Cornwall. Every high school and many of the public schools in the city began to save their papers.

December '73, CARP was given a LIP grant of five thousand dollars. They were asked to leave their headquarters, but the grant covered the cost of renting another vacant gas station and also the hiring of three men full time.

TROUBLE

May '74 was the start of CARP's bad luck. They had been using a truck belonging to one of the employees but now it was time to go out and buy their own. Within two weeks of Miss Kennedy's purchase the motor in the truck blew out and had to be replaced. There was confusion over the warranty and Miss Kennedy again had to open her

A fire then destroyed their headquarters and they had to move. The new location cost more to rent and leaked. "When it rained, the water actually ran right through the building," said Miss Kennedy.

By this time, the LIP grant was over and she was paying her employees out of her own pocket. "After I put \$8,000 into the project, I just gave up counting."

The cardboard market dropped and instead of getting five cents for every cardboard box, CARP has to haul all cardboard to the dump.

Miss Kennedy has explored all the possibilities of getting a grant to subsidize CARP.

In August, the Cornwall City Council offered to pay her \$3.00 a ton for the paper which CARP recycled rather than having it go to Cornwall's dump. "This is scarcely a break-even proposition," said Miss Taylor. "After three months of work, I have just sent City Council a bill for \$91.00."

EVICITION

"In March, we moved to a

new location, but the owner has now decided he wants to fix the place up and rent it for short periods of time to people who are willing to pay a high price. He has asked us to be out the end of the month."

CARP has no place to go. "We need a spot about the size of a gas station or some place with a loading ramp but there doesn't seem to be any place within our financial means in Cornwall. There has always been a way to solve our problems before but now I am at an absolute standstill."

"I guess what bothers me most is that I've never failed before in a major project and I don't like the idea of failing now. We don't find a place soon, we'll have to fold. What am I going to do with an old truck, an old baler and all those collection boxes."

Then Miss Taylor hurried off. First to drop off a public service announcement at the local T.V. station asking for space anywhere in Cornwall and then out to CARP's headquarters to pay her staff.

Briefly: grants and water studies

The Federal Government has announced a two year extension of the accelerated capital cost program to encourage the acquisition of pollution abatement equipment.

It allows taxpayers, who have acquired air or water pollution control equipment, and who meet certain conditions under the Income Tax Act, a 100 per cent equipment write-off over two years. Firms providing pollution control services are also eligible.

Ontario's Pollution Abatement Incentive Act has also been extended. The Act permits the government to return the Ontario sales tax paid by industries on the purchase of abatement control equipment.

The extension will provide provincial grants on pollution control equipment installed and operational by April 1, 1976.

Since 1970, \$8.5 million has been provided in pollution control incentive grants to industry and \$535 thousand to Ontario municipalities.

Prince Edward Island, New Brunswick and Newfoundland have all signed agreements with Environment Canada to share the costs of water quantity surveys. This will ensure close co-operation on vital monitoring surveys of streamflows and water levels.

The surveys provide information on the quantity and availability of fresh water, a necessary consideration in development plans.

Under the agreement, a joint committee will oversee the project's operation and shares of costs will be renegotiated annually.



Elaine Kennedy checks paper collection box placed in local high school.

Kitchener tires make the grade

By BOB MACKENZIE

environmental reporter for the
Kitchener-Waterloo Record

It won't be long now before hundreds of skiers will be gliding down a man-made hill in Kitchener's west end.

In many respects the huge mound of waste materials will be similar to garbage-filled hills in other parts of North America, but there will be one key difference. The Kitchener hill will have a rubber core. More than a million car and truck tires have already been dumped on the site and more are arriving each week.

However, the end is in sight. The hill is rapidly approaching its designed contour and another dumping site will have to be found for the estimated 400,000 tires a year that have been going into the hill.

FILLED HILL

While fill from construction sites will still be accepted, the design plans call for all tires to be covered by a minimum of 12 feet of soil. This means that dumping of tires will be cut off well before the final layer of clay, topsoil and sod or a mulch seed combination is applied. Then comes the planting of trees and shrubs to stabilize the hill, and grooming for the winter ski runs down the 135-foot hill.

Fred Graham, Kitchener's parks commissioner, hopes the hill could be ready for skiing by the 1976-77 season—if everything goes smoothly.

PROBLEM TIES

Tire disposal is a problem for many communities, but with two major tire plants in the city, it is a critical one for Kitchener. The city came up with the ski hill plan a few years ago, and although garbage disposal responsibilities were assigned to Waterloo Region when the new level of local government was introduced on January 1, 1973, the project has continued.

Now, however, the Region is looking for another way to dispose of the unwanted tires.

Tires just are not suited to normal landfill site operations. The resiliency, flexibility and strength necessary for safe driving defeat normal methods of compaction and burial in landfill sites. It may take a couple of years, but the tires have a nasty habit of working their way back to the surface.

SPRING BACK

Even if they remain buried the problem is far from over. As the tires spring back into shape, their interiors form air pockets—an ideal collecting place for dangerous methane gas or toxic liquids which form while the garbage buried in the dump is decomposing.

The obvious solution is recycling, but that still is a fair way off with present conditions. While the technology exists, the value of the reclaimed materials is not sufficient to justify the cost. However, with the rising price of petroleum products the situation may change.

THE SOLUTION

The simplest solution is to shred the tires into small pieces before they are dumped into landfill sites. After all, it is the shape of the tires, not their content, which causes the problem.

Waterloo Region considered buying a tire shredding machine last year, with the possibility of using it to shred the rubber into pieces small enough to be incorporated into asphalt mixtures for road paving. But a budget squeeze forced cancellation of the project, and it has not been revived for 1975.

Instead, Gerry Thompson, the Region's waste management engineer, approached one of the tire companies—BF Goodrich Canada Ltd.—and suggested they consider purchasing a shredding machine. He was armed with the mild warn-

ing that the Region might refuse to accept tires for landfill disposal in the near future.

The company complied, but for private reasons rather than the Thompson argument.

One of Mr. Thompson's alternatives, says Bill Bobbie, the chief engineer for Goodrich, was for a single shredding plant to be shared by all sources of waste tires. This not only presented a potential problem of storing waste tires rejected during quality-control inspections at the plant, but also one of security.

And the security aspect is a double-barrel one.

"One aspect," says Mr. Bobbie, "is safety—to make sure the defective tires are disposed of properly and not diverted and sold somewhere."

The other carries overtones of industrial espionage. Goodrich has been a leader in the North American development of steel-belted radial tires, and company officials want to protect the technology they have developed. While competitors are free to buy the finished tires and take them apart to see how they are constructed, they don't want their competitors to have access to the rejected tires.

"Examination of the defects could provide clues to the manufacturing process we use," a company official explained. "They could learn how we have overcome production problems—problems that took a lot of money to solve."

The cloak-and-dagger approach may seem strange for a commercial product such as motor vehicle tires, but both companies here show extreme caution about making public any information which could be of any possible use to their competitors.

REJECTS

One example is the actual number of rejects they have from their production.

Mr. Thompson says he doesn't know just how many defective tires are scrapped by the companies, but he does know the number is significant.

In the fall of 1972 (when he was Kitchener's sanitary engineer and also responsible for the current landfill site) he estimated that the manufacturers were responsible for at least half of the 4,000 tons of tires brought there in a year. (At an average weight of about 30 pounds, that added up to more than 265,000 tires a year.)

However, he made that estimate more on a hunch than actual observation. After a one-month check of material flowing into the site last fall, he raised the annual estimate to 6,000 tons a year—or 400,000 tires.

"About 90 per cent of them could be coming from the two tire plants."

SURCHARGES

Mr. Thompson is preparing for his fifth bid to get municipal politicians to accept the concept that surcharges should be levied at landfill sites for items that present special disposal problems. Besides tires, he lists grease, tree stumps and wooden pallets as common nuisance items.

"I was shot down three times in Kitchener and once with the Region," Mr. Thompson said in an interview, "but I can sense a change in thinking in recent weeks."

While he is a strong proponent of recycling, Mr. Thompson also is a realist. He knows that economic factors are the key to successful recycling operations on a large scale.

"When recycling becomes economically feasible we won't have to try to promote the idea. Industry will do it for us, and it'll do a good job. I don't think that day is far away, but I wish it were here now."

SHREDDING EQUIPMENT

But the Goodrich decision is a start. The company ordered the shredding equipment from a West German firm this spring and had it installed and in operation by May 14. The equipment will take in only 25 square feet of floor space in the plant, but the installed cost is esti-

mated at more than \$50,000.

The equipment, however, is expected to have little effect on the 1974 proposal to use ground up rubber in a paving mixture. It will break the tires up into pieces the size of the palm of an adult man's hand.

"I don't think this material would be suitable for paving even if it was smaller," Mr. Bobbie explained.

"See that," he added pointing to the razor-sharp ends of steel wires embedded in the ends of a sample chunk of shredded tire. "I don't think that would be good for car tires running over it. And with increasing production of steel-belted radial tires, you'll have a lot of that in the mixture."

He suggested however, that the chunks of tire could possibly be used for the base of a road—if they were covered by two or three inches of regular asphalt. "Maybe some paving people will be willing to experiment with aggregate of this kind."

ALTERNATE PROGRAMS

Uniroval held meetings with Region officials this spring but was still displaying reluctance about participating in its own tire-shredding program. "We tried a shredder about three years ago, but it didn't work out," a Uniroval spokesman explained. "It ran for a week or two, then packed it in."

However, the Uniroval source agreed that shredding machines on the market today probably incorporate significant improvements. In early May the company changed its mind and ordered the equipment. It hoped to have it in operation about the end of July.

Mr. Thompson also has expressed hope that the Goodrich machine might be made available to the Region for shred-

dling of tires taken to the landfill site from non-industry sources, but Mr. Bobbie feels any discussions along this line are premature. "We want to get the machine operating first and assess its capabilities. That comes first. After that we'll consider other uses the Region may have in mind."

A variety of uses have been tried for waste tires, with variable degrees of success.

RECAPPING

Perhaps the most common is recapping the worn tire with a new layer of tread material. This is a common practice for truck and bus tires.

"Trucking companies expect tires to stand up for recapping three or four times, and complain loudly if they don't," one tire company official noted.

The average motorist, however, seems to have a built-in bias against using recapped tires.

"Some people fear that the tires are not as safe... they may use recapped snow tires... but won't use recaps for general use," says Arnold Reed, manager of the Goodrich tire plant.

He feels the concern is misplaced because tough federal regulations governing tire quality and inspections—regulations which are responsible for the number of rejects in the manufacturing process—apply to recaps as well as new tires.

And development of heat-bonding process has improved the adhesion between the old tire and the new tread, all but eliminating the strips of torn-off tire tread which used to litter major highways.

"A recap is as good as a new tire so far as safety and endurance are concerned," Mr. Reed emphasizes.

But not all tires can be recapped. And even new tires which fail quality-control inspections due to minor tread defects must have the tread stripped off before they can be recapped. With this extra

Scrap tires: till now deflated business



Diver secures artificial rubber reef. They provide a haven for game fish and other sea life.

cost, and the limited demand, the recapped tires can solve only a small part of the problem.

DISTILLATION

Another prospect for the future involves a process known as destructive distillation. This breaks down the synthetic rubber to some of its original components, producing a combination of gases, a liquid and some solid particles which can be used as a building material. The gases can be used in combination with or as a substitute for natural gas fuel, while the liquid also can be used as a heavy bunker-oil-type fuel.

This technology has been tried in pilot plants in Japan and the United States, but while it works, there have been some problems. And the value of the reclaimed materials has apparently not been sufficient to justify large-scale operations.

Another fuel-use concept involves burning limited amounts of cut-up tires, but in Ontario there are two major drawbacks: The drive toward cleaner air in the past two decades has all but eliminated coal as a source of fuel in most areas; and the present air-quality standards probably would prevent the burning of tires without expensive modifications to furnaces to meet emission standards.

"There is a similar problem with waste oils from garages," one industry source explained. "A lot of the crankcase oil could be used as a fuel, but the impurities the oil picks up while it is in an automobile engine probably would make it impossible to meet air-emission standards."

All in all, it is a frustrating situation. Everybody seems confident that a long term solution will be found, probably in conjunction with changing market conditions, prices and energy considerations. But for areas such as Kitchener, a tire-manufacturing centre, the problem is an immediate one requiring a short-term solution.

By DENNIS NAGATA
Summer Editorial Assistant

The economic shape of the scrap tire business in Canada is 105 million rubber zeros a year—the number of tires discarded in landfill annually.

A queen's park last month at Kitchener's Park showed that the scrap tire business, once rolling, will be good for everyone concerned.

The day-long seminar, sponsored by the Ministry of Industry and Tourism in co-operation with the Ministry of the Environment, was a forum for the presentation of new systems developed by businessmen and scientists for converting waste rubber materials into business profits.

J. J. Goudie, speaking on behalf of the Rubber Association of Canada, outlined the basic irony of the tire industry, the major supplier of waste rubber, to the 200 in attendance.

Tire technology has advanced to a considerable degree of sophistication, with great effort having been expended to produce tires that are strong, long lasting, and resistant to breaking down.

GOOD AND BAD

"The science of tire technology has made a good tire, but bad garbage."

Mr. Goudie outlined the reasons why tires make undesirable garbage. First, when left heaped above ground, the sun's heat tends to soften them, making them stick together. Secondly, tires can become volatile, and burst into flame. Burning rubber, he said, defies polite description.

Even the conventional means of disposing rubber tires has its problems, he said, buried tires

work themselves to the surface in time, much as a dead fish will float to the surface.

Boris Boyko from the Ministry of the Environment told the seminar group that his Ministry's resource recovery program will explore uses of waste material, including rubber. Resource recovery plants, now in the planning stage, will provide expanded industrial opportunity, he said. Sanitary landfill is now the conventional means of tire disposal.

But whole tires can be put to different use, as in the creation of rubber reefs on the east and Gulf coasts of the U.S. The bundles of tires, drilled to permit air to escape and weighted with concrete, sink to the ocean bottom to provide breeding grounds for fish life. During the next few years, a Goodyear spokesman estimates 1½ million tires a year will go into the construction of these reefs. It's also involved in studies of the use of scrap tires as floating breakwaters and as shore protective devices.

SAFE

F. R. Lally of Goodyear in Akron, Ohio said research has indicated that the tires neither harm the fish nor pollute the water (salt or fresh).

Mr. Lally further outlined the use of tires as barriers on roads. He said Goodyear researchers have developed scrap tire structures (similar to the rubber reefs) that leave 60 mph test vehicles virtually undamaged after impact.

Though rubber tire barriers are currently in use along Toronto's Don Valley Parkway, waste rubber is not used in the actual asphalt in it, nor in any road in Ontario. This despite evidence from the Western U.S. that the use of reclaimed rubber may reduce the cracking of road sur-

faces under heavy loading. In an effort to determine the performance of asphalt containing reclaimed rubber, under Canadian winter conditions, Metro Toronto Roads and Traffic Department has contracted with the University of Toronto to carry out a short term investigation.

Dr. M. R. Piggott, of the research team at the university, outlined the program. He said the powdered reclaimed rubber is mixed with the asphalt at 200 degrees centigrade for about half an hour. The rubber is not completely dissolved, and the particles retain their identity to a considerable extent, giving the asphalt certain flexibility.

U OF T STUDY

Dr. Piggott said test strips of asphalt containing rubber will be laid on medium to heavily used roads in the Metro Toronto region this fall and examined on a regular basis to determine the effects of the passage of traffic, natural temperature fluctuation, water, snow and salt. He and his associate, Dr. R. T. Woodhams, will carry out laboratory studies to determine the optimal temperature to mix the rubber with the asphalt. One method of producing powdered rubber suitable for mixing with asphalt is the cryogenic process.

Professor Norman R. Braton from the University of Wisconsin told the seminar group that the process involves the rapid cooling of a substance (usually with liquid nitrogen) below its brittle point. In the case of rubber, the process is a very simple one, said Dr. Braton. The estimated cost of the rubber particles produced by this method is about 2 to 3 cents a pound.

He said adding rubber to asphalt was first tried and patented over a century ago. In the U.S.

there are over 10,000 miles of rubberized roads, but interest in them is only recently being rekindled, he said.

At the other end of the temperature scale from cryogenics, is a method called pyrolysis, by which ground-up tires are heated to high temperatures by direct contact with hot ceramic pellets and refined to yield the basic raw materials. Researchers from Goodyear and The Oil Shale Corporation (TOSCO) estimate that a full-scale recovery plant could convert some 8 million scrap tires annually into 15 million gallons of oil, 73 million pounds of carbon black (a basic ingredient in new tires) and two million pounds of steel. Goodyear's Mr. Troy also told the seminar group that the process is, at present, economically unattractive.

On the other hand, Chrysler of the U.S. has incorporated into their Detroit automobile production, an economically attractive method of recycling plastic trim from their production lines into automotive trunk mats.

Their supplier, Troy Mills of New Hampshire built a new plant last fall to produce trunk mats from recycled material. Their current output is approaching 100 pieces per hour, but they feel their ultimate capacity is 2500 pieces per day.

MATS

Mr. T. M. Hamilton of Chrysler said the use of recycled trim has reduced waste disposal costs and reduced the cost of the trunk mats. But more importantly, he said, the process is reducing the use of new materials that are derivatives of our dwindling non-renewable resources, such as fossil fuels.

Another commercially proven method of recycling plastic is in



Tires being dumped at ski-hill site.

Photo by Richard Sutton,
courtesy Kitchener-Waterloo Record.

use by Toronto's Plastic Recycling Inc. The company was established as a result of last year's seminar dealing with the utilization of waste plastic. The seminar was a joint venture between the Ministry of Industry and Tourism and the Ministry of the Environment.

The process (similar in principle to the one in use by Chrysler), described by Peter Stephen, the new firm's vice-president, turns out pallets and building forms (fences, posts, containers and other products which do not have to meet standards for non-contaminated plastic. Mr. Stephen said the Scarborough plant will be in production at the end of this year using some of the 10 million pounds of waste plastic now going into sanitary landfill. The parent operation is in Britain.

Mr. Stephen said the Toronto area could support two more operations. He said that Windsor and the Ottawa-Kingston area could support such an operation that produces one ton an hour (maximum) at a cost of 2 cents a pound (on a three shift basis). The capital cost of the regal system, he said, is about one quarter million dollars.

At least for Plastics Recycling Inc. last year's seminar was a catalyst for a successful commercial enterprise based on recyclable material. The effect of this year's seminar on waste rubber won't be known for a while. But for some, like Neil Fielden of Oshawa's Snowden Rubber Specialists Ltd., the benefits of the seminar were immediate.

Mr. Fielden said as a result of the seminar he has contacted someone who can recycle remnant pieces of rolled rubber from his operation that amount to 20,000 lbs. a year.



Conservation Week

Sault goes all out

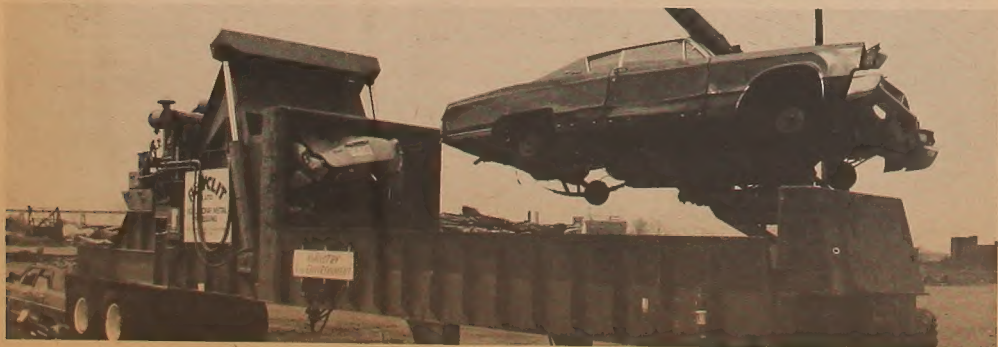
Sault Ste. Marie never does anything halfway. When they decide to get involved in a project, they really go to it.

May 10-17 was the third annual conservation week sponsored by the Sault Ste. Marie Region Conservation Authority. Special nature walks, tree plantings, clean-ups, a canoe race and a high school "solution to pollution" contest were all part of the week's activities to foster environmental awareness.

Shoppers at Station Mall were especially delighted with the various displays set up by local industries and the provincial and federal governments to show environmental problems and positive action.

One of the most popular demonstrations was a car crusher supplied by Recycleit of Oshawa. About 20 cars were crushed daily in a vacant lot beside the plaza. These were picked up locally from ditches, gullies and from people's backyards, at the owner's request.

Residents were also invited to bring their cars and trucks to the site and have their emission control devices checked by Environment Ontario's mobile test van.



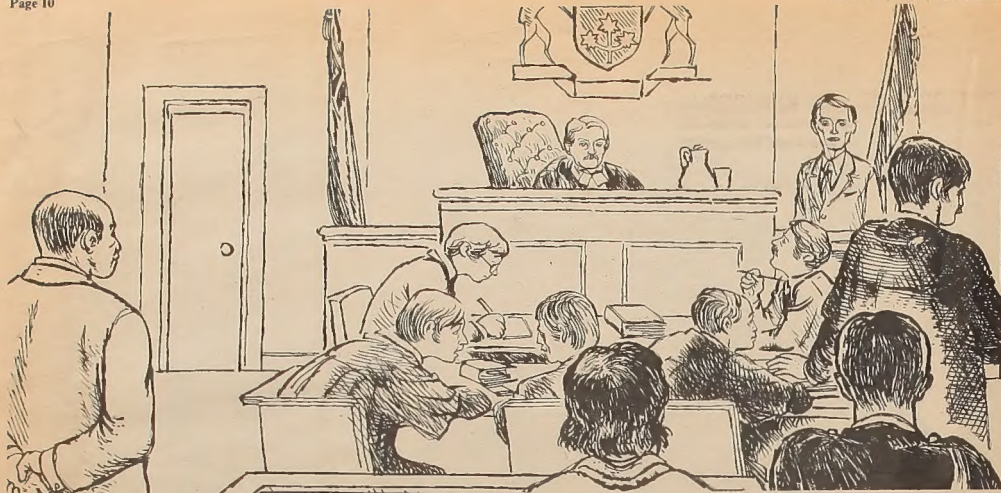


Left: A young man sports a big "Eyes on pollution" button and an equally big smile. Environment Ontario employee, Jim Harmer (light shirt), looks on. Middle left: On the other hand, a young lady seems a trifle unnerved by Environment Canada's lamprey eel exhibit. Below: Recyclit of Oshawa provided this portable car-crusher that processed over 100 local cars during the week. Above: It was the third annual conservation week for Sault Ste. Marie. At right: The exhibits in the local shopping mall attracts interested onlookers.



huck heerma.

Construction has begun on an experimental plant for resource recovery from solid waste. It's part of the Ministry of the Environment's 15-year \$500 million waste reclamation project.



Some cases have more appeal

October 1974—The Canadian International Paper Company (CIP) in Hawkesbury was convicted on two counts of operating a stationary source contrary to Section 5 of Regulation 15 of the Environmental Protection Act (EPA). In other words, the company was found guilty of emitting a higher level of sulphur dioxide into the atmosphere than is permissible under the EPA.

The fine was \$1,000 for each conviction.



Colin Macfarlane was the director of the air management branch when the charges were laid.

The case was one of the largest affairs conducted by the Ministry. In fact, the charges were based on incidents occurring in November and December of 1972. However, both the provincial and the county courts in Hawkesbury had ruled in favour of the company and it was only by ultimately taking the case to the Court of Appeal in Toronto that a conviction was obtained.

Why was the Ministry prepared to spend this money and time to prosecute two charges against one company?

THE REASONS

Linda McCaffrey, the Ministry's lawyer sums it up best. "A lot of companies believe that if they hire a smart lawyer, he can get them off on a technicality. CIP's conviction was a terrible shock to them."

"It destroyed a myth," she said. "The publicity during the trial also hurt the company. I think that there is now a better chance of the company complying with a control order than there was in the past."

A control order has since been issued requiring specific abatement measures by the company.

THE CHARGES

CIP operates a plant in Hawkesbury

where pulp is made from logs in a process which involves sulphur. As a result sulphur dioxide is emitted with steam into the atmosphere from the plant's stacks.

The company was started in 1890 and the town sprang up around it. It rests on the main street with houses and businesses just a few feet away.

Ministry staff had been trying to work with the company to persuade them to take meaningful action of their pollution problems. In 1972 Dr. Eugene Singer, Fulvio Baiaci and Michael Wu took the mobile monitoring van to Hawkesbury to sample the air quality.

With the assistance of Ray Amell, the air management inspector in Cornwall they drove up and down the streets of Hawkesbury measuring the air pollution on a daily basis for two weeks. When the weather forced the smoke plume down to street level they tried to stay in the middle of it.

As a result of their report, charges were laid against the company stating two specific days when the sulphur dioxide exceeded the standard.

Representatives of the Ministry and the company then met in court to set a date for the trial.

THE TRIALS

The defence lawyer, Wayne Spooner asked to have the case thrown out of court claiming that the charges had not been written up properly. The charges cited that the offence was contrary to Section 5 of Regulation 15 but didn't mention the Environmental Protection Act.

The hearing was put off for a week. At the request of the Ministry, the Crown Attorney for the area argued that the charges were valid and was successful.

The trial date was set for September.

In the meantime, a similar charge had been made against Virchen Chemical of Cornwall. In this instance, the judge dismissed the case when the lawyer raised the same objection. The Ministry started proceedings with the Supreme Court in Toronto to order the judge to proceed with the trial.

The CIP case had to be postponed pending the outcome of the Supreme Court ruling. If the Supreme Court ruled that the charges were invalid then the charges against CIP would have to be withdrawn. However, the Ministry was successful and the case against CIP was heard on October 21, 1973.

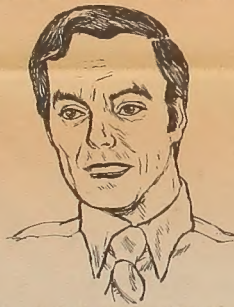
PROVINCIAL COURT

The Ministry had six witnesses. Dr. Singer, Fulvio Baiaci and Michael Wu testified on the high concentrations of sulphur dioxide in the air. They found 2.27 parts per million (p.p.m.) over 30 minutes on November 7 and 0.8 p.p.m. for the same duration on December 8. Both were well over the allowable 30-minute level of

0.3 p.p.m. They also testified on their own physical ill health during some of the testing.

Ray Amell described the plant processes and the parts of the plant he felt were causing the problem.

Ministry phytotoxologist, Dr. David Drummond explained the harmful effects



Ray Amell, air management inspector described the plant's operations.

of sulphur dioxide on vegetation and Dr. Jim Stoppes discussed its effects on human beings.

CIP's case rested on a series of letters between the Ministry and the plant in 1972 and 1973. The Ministry had asked the company to submit a program to control their pollution. CIP had written that market conditions made such a program difficult until the end of 1974. In the interim, they were prepared to make a number of changes; these consisted mainly of patching leaky pipes.

In another letter the company asked the Ministry's approvals section to issue them with a certificate of approval for a new stack and boiler. The certificate was granted in 1973.

The defence lawyer maintained that this certificate was approval for a control program (patching the pipes) and, under the EPA, companies are granted immunity from prosecution if they are on such a program.

The Ministry's position was that a certificate of approval has nothing to do with a control order, which is worked out with the local abatement officer and issued by a director of the Ministry.

The judge reserved his decision until December when he dismissed the case on the grounds that the Ministry had misled the company.

COUNTY COURT

Linda McCaffrey appealed to the

County Court in Hawkesbury which heard the case in April '74. The cases for both sides were the same except that Colin Macfarlane, director of the air management branch at the time, testified that he had never been asked to approve a control program for CIP.

The judge again reserved judgement and the Ministry filed written arguments.

On May 21, the judge threw the case out of court, basing his decision on an erroneous finding of fact.

The judge said that there were two possible sources of sulphur dioxide—the digesters and the boilers—and emissions from both came out of the same stack.

The testing was done at a time when the emissions could have come from either digesters and/or from the new boiler which was built with the Ministry's approval, so the judge ruled that the Ministry had failed to establish its case.

COURT OF APPEAL

Linda then appealed the ruling to the Ontario Court of Appeal in October '74.

It was explained that there are separate stacks for the boilers and digesters but in any case the monitoring was done before the new boiler was installed.

The court ruled in favour of the Ministry and entered convictions on both charges.

The defence lawyer then wished to show evidence of the company's good faith before the amount of the fine was decided.

The Court of Appeal does not hear evidence, so the case was returned to the County Court in Hawkesbury.

The hearing came up at the end of November and the judge set the fines at \$1,000 for each conviction.



Linda McCaffrey, Environment Ontario's lawyer, appealed the court's decision twice.

*Rolling by thousands off the machines,
the beverage containers go out...*



Comeback for returnables

Following action on non-returnable soft drink bottles, Ontario Minister of the Environment William G. Newman has turned his attention to wine-liquor bottles.

In March, Mr. Newman asked the Waste Management Advisory Board at its inaugural meeting in Toronto for a full examination of the use of non-returnable liquor and wine bottles.

"I would like you to research fully the area of liquor and wine bottles with the objective of reducing this component of solid

waste generated by consumers," he told the board. He said the Board's recommendations would assist the Ontario Government in its attempt to deal with this matter.

Mr. Newman also called upon the board to monitor the soft drink industry to keep it to the deadlines he imposed for the reintroduction of returnable and refillable containers.

The Environment Minister met with representatives of Ontario's soft drink industry earlier this month and told them he wanted an early return of reusa-

ble containers for consumer use. He informed the industry that unless it voluntarily met the deadlines, it would face legislative action.

The 11-member board chaired by Mr. R. H. Woolvett and recently appointed by the Minister will be responsible for assisting in further developing the province's program of resource recovery.



ron johnson

*...but where
do they go
from there?
-lost
by the way
or back
to the store.*



huck beerma



huck beerma



Above: High school students follow the Miles for Millions walkers picking up litter. Right: Students from Winston Churchill Collegiate take a break from their pick-up activities.



Students clean up on marathon walk

The eighth annual Miles for Millions walk May 3 in Toronto generated close to \$400,000, but not much in the way of litter.

And the energy of 100 students and the concern of two businesses takes the credit.

Bulk-Lift Systems Ltd. of Toronto ran trucks to cart away the litter-bags supplied by Union Carbide Canada Ltd. and filled by high school students picking-up after more than 25,000 walkers on the 43 kilometre (27 mile) course.

Globe and Mail reporter John Beaufort wrote two days later

that the route was "litter-free for the most part..." supporting Ernie Clark, vice-chairman of Miles for Millions, that the litter program was 90 per cent effective. Mr. Clark said he was aware of no complaints from homes and businesses along the route.

"It was the most successful clean-up program we've ever had," said Mr. Clark who has been associated with the event since it began in 1968.

Four years ago, Union Carbide Canada Ltd. began providing garbage bags for Miles for

Millions, this year supplying 10,000. This year they also provided 140 T-shirts and jackets for the students and teachers of Winston Churchill Collegiate Institute and Malvern Collegiate. The 50 students and five teachers from each school earned \$1500 from the organizers for their student's councils.

Jennifer Vaughan, 17, from Malvern, said the litter program was a good idea, but she said she wished she had brought gloves along—her hands were getting sore. The students worked most of the day, as did the teachers

who acted as supervisors. French teacher Janet Dalziel of Winston Churchill was responsible for the area at the last check-point, Nathan Phillips Square.

"I'm getting a little restless," she said, "I'm anxious to get out on the route to see what's happening."

What was happening on the route, from a pollution aspect, was that 13 industrial waste containers supplied by Bulk-Lift Systems were periodically emptied by two of their waste-disposal trucks. Bulk-Lift has co-operated with the organizers

of Miles for Millions twice in the past three years.

Each firm spent thousands of dollars on the litter campaign, but both Cliff Smith, advertising manager for Union Carbide Canada Ltd. and Campbell Sharp, director of public and industrial relations for Bulk-Lift Systems Ltd., emphasized that the real work was done by the students. Both men said they saw no reason why their participation in future years shouldn't be continued.

Thames River Basin report soon available

Two Ontario Ministries, Environment and Natural Resources, municipalities and citizens in the area of the Thames River and its tributaries, have been working together on a three year study of the river basin.

The study involved intensive investigation into the many related problems of the 125-mile-long river, especially those of water quality impairment and flooding.

The project's goal was the development of guidelines for the management of the Thames River water resources to ensure that adequate quantities of water are available for recognized uses at the lowest possible cost, and

that erosion and flood protection are provided consistent with appropriate benefit-cost criteria.

The Thames River Basin Water Management Study report will be available in mid-year. One of its recommendations concerns the fact that effective basin management can only be achieved if the watershed is treated as an entity.

Although a variety of factors other than water management considerations are involved in planning the water resources of the basin, as a result of the study, are now well defined and their limitations known. Thus this report will provide valuable assistance to long-range municipal and provincial planning in the Thames River Basin.



Ernest Hartling, captain of the famed Bluenose meets Environment Ontario Minister William Newman.

All well with the Bluenose

Bluenose II left Windsor May 30 after a 24-hour visit during which more than 7,000 persons toured the vessel, including a surprise visitor, William G. Newman, Ontario's Environment Minister.

Mr. Newman spent about an hour aboard the vessel.

Ernest Hartling, captain of the replica of the famed Maritime racing schooner said the ship was given a seal of approval by two representatives of the Ontario Ministry of the Environment who checked the sewage disposal facilities to ensure that the ship met provincial anti-pollution standards.

Ontario environmental officials have had nothing but the best co-operation from Nova Scotia organizers of the vessels 40-day Great Lake tour.

After the inspection, Mr. Newman telephoned Glen Bunnell Nova Scotia's environment minister, and told him the vessel had his personal approval.

The Minister was in Amherstburg to christen a ministry vessel the Guardian No. 1 and decided to visit the Bluenose before returning to Toronto.



Ministry
of the
Environment

Hon William G. Newman,
Minister
Everett Biggs,
Deputy Minister

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